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ABSTRACT

Today, farming claims fewer members in the U.S. work force, and its share of the gross national product has substantially decreased. Yet farming remains important to the economy because of its links to a variety of industries. Extensive use of financial inputs has made farmers more vulnerable to fluctuations in the general economy, rising costs, and interruptions in supplies. Although macroeconomic factors have become increasingly critical in shaping demand for farm products, agricultural policies are only weakly integrated with macroeconomic policy. Trade and financial links mean that domestic and foreign macroeconomic policies and world supply and demand conditions affect U.S. agricultural exports, which, in turn, heavily affect the farm sector. The 1985 Food Security Act focuses on shifting agriculture more toward market orientation so that the farm sector can produce for domestic and international markets at prices reflecting global supply and demand. The potential for continued volatility in the farm sector has significant implications for farm policy, pointing to the need for more flexible farm programs to deal with different markets in the U.S. and abroad. Other farm policy proposals that have been offered include decoupling, mandatory production controls, and targeting. (YLB)

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Challenges in Designing U.S. Farm Policy

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U.S. DEPARTMENT OF EDUCATION
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Policymakers face several critical issues in assessing farm programs over the next several years. Annual costs of Federal farm programs could continue to be high, despite recent moves toward more market-oriented policies. The goal of a more market-responsive farm sector also points to the dilemma posed by current programs, which tie benefits to production. Continued gains in farm productivity, coupled with steady domestic demand and a slow recovery in exports, means the potential for excessive stocks will likely continue.

The U.S. farm sector has been continually adjusting to new and changing conditions since the 1930's. Federal policies and programs have been advanced over the years to deal with problems in the sector caused by these conditions. But, Federal policies and programs have not solved the problems of the 1980's: reduced exports, crop surpluses, and farm financial stress. The 1985 Food Security Act, based on a complicated, half-century old network of former and existing legislation, moves the U.S. farm sector closer to being more responsive to domestic and foreign markets. However, the programs under the act are costly and continue to distort economic signals to farmers, thereby affecting resource use patterns. This bulletin describes changes in the farm sector, the current situation, and their implications for policymaking.

PROFILE OF THE U.S. FARM SECTOR

Once the livelihood of more than 75 percent of the U.S. workforce, farming now claims only about 2 percent. Farming's share of the gross national product (GNP), almost 80 percent in the early 1800's, is but 2 percent today. Yet, farming remains important to the economy because of its links to a variety of industries. Farmers buy agricultural inputs (such as equipment, supplies, feed, seed, fertilizer, labor, and financing) from "upstream" industries, which account for another 2 percent of GNP. In turn, farmers sell their products to the "downstream" sectors, those that store, process, transport, manufacture, distribute, retail, consume, and export farm products. These industries account for 14 percent of GNP.

The number of farms fell from a peak of 6.5 million in the mid-1930's to 2.2 million in 1986 (fig. 1). Because average farm size has more than doubled, the amount of land devoted to farming and ranching remains close to the mid-1930's level of about 1 billion acres. Greater productivity has enabled these fewer but larger farms to increase production faster than the needs of the domestic population. As a result, agriculture has turned increasingly to foreign markets and U.S. agricultural exports have grown.

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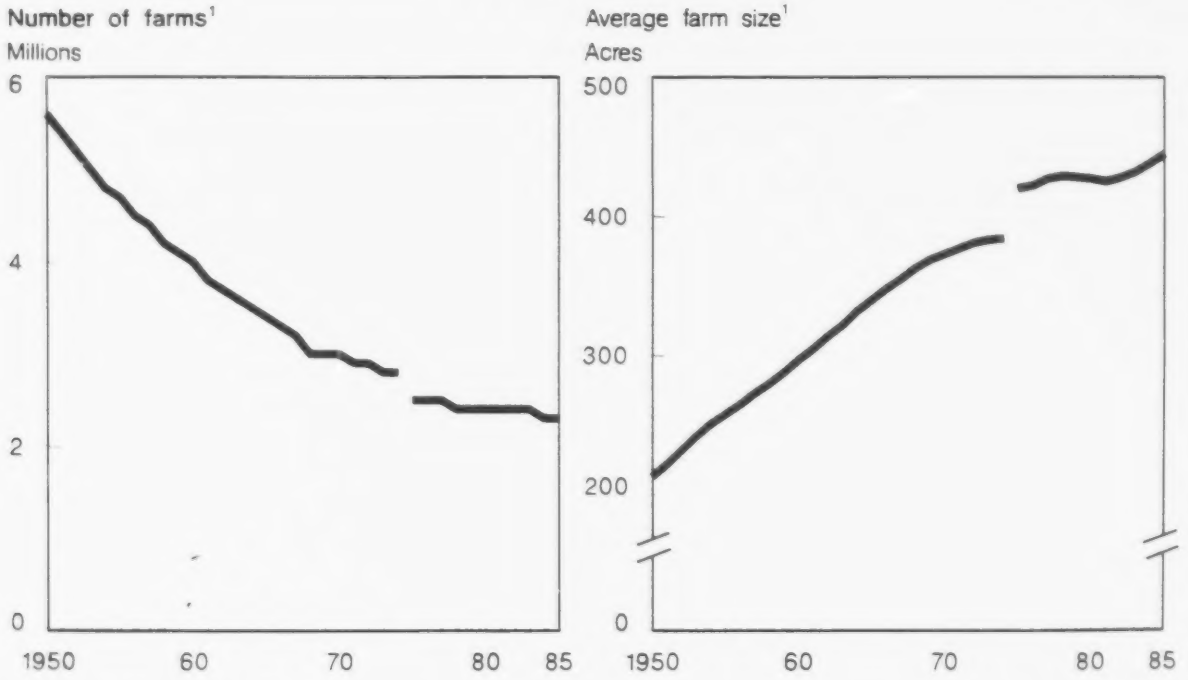
Looking at the farm sector as a whole masks significant changes within it. These changes have resulted in a far more diverse sector than before. For example, the trend toward fewer farms is not consistent across all types, sizes, or sales classes. Large farms (those with annual sales of $200,000 or over in 1980 dollars) more than doubled in number between 1960 and 1982, while small farms (those with annual sales of $10,000- 39,999) fell from 1.2 million to just over 500,000. Small farms made up 23 percent of all farms in 1982 but produced less than 10 percent of the total value of farm products sold. In 1960, they made up 32.5 percent of all farms and 28 percent of sales (fig. 2). Large farms, on the other hand, accounted for less than 5 percent of all farms in 1982 but almost 50 percent of total sales. In 1960, these farms had a 23-percent share of sales.

Larger farm size, increasing specialization, and greater reliance on machinery, fertilizers and other chemicals, and hybrid and other improved seeds mean that most farm inputs are purchased (fig. 3). Greater use of borrowed capital, higher land prices, and larger mortgages helped boost interest expenses from one-tenth of farmers' cash outlays in the early 1970's to about one-sixth today (fig. 4). Extensive use of financed inputs has made farmers more vulnerable to fluctuations in the general economy, rising costs, and interruptions in supplies.

Macroeconomic factors (such general factors as the interest rate and rate of inflation) have become increasingly critical in shaping demand for farm products. Yet, agricultural policies are only weakly integrated with macroeconomic policy. Instead, farm policies are typically developed in response to events within the farm production sector and measured by such indicators as farm income, commodity prices, and number of farms in financial difficulty. These reactive farm policies generally focus on adjusting commodity program price and income supports.

Figure 1

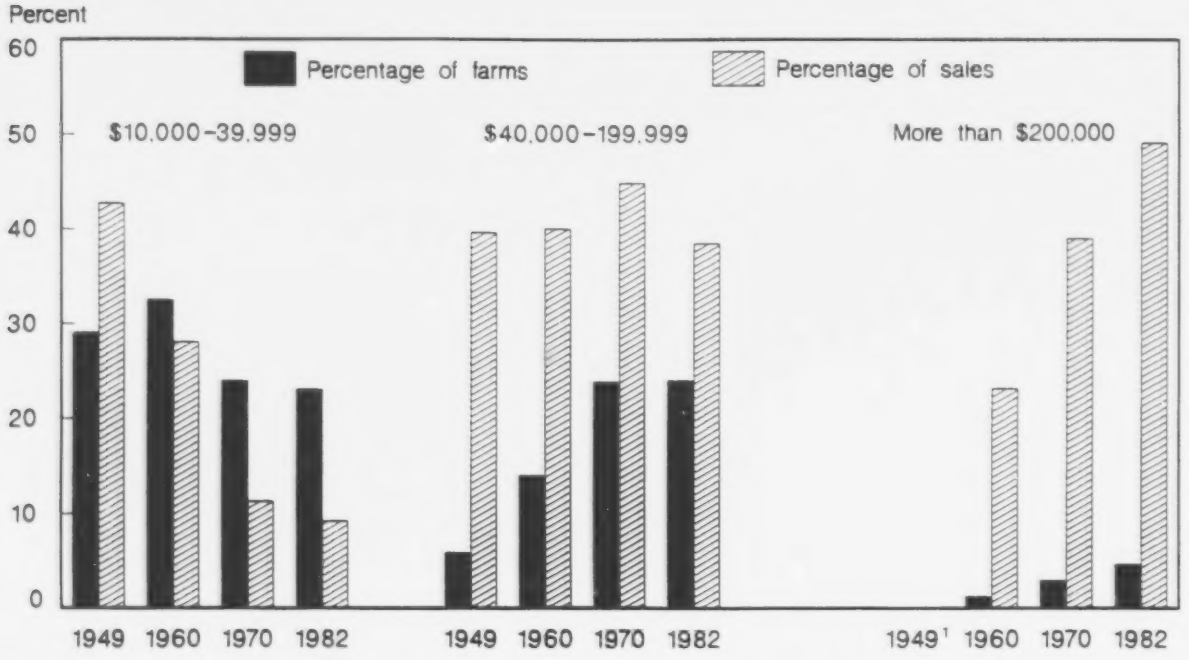
Number of Farms and Their Average Sizes



1/ Definition of farm changed in 1974.

Figure 2

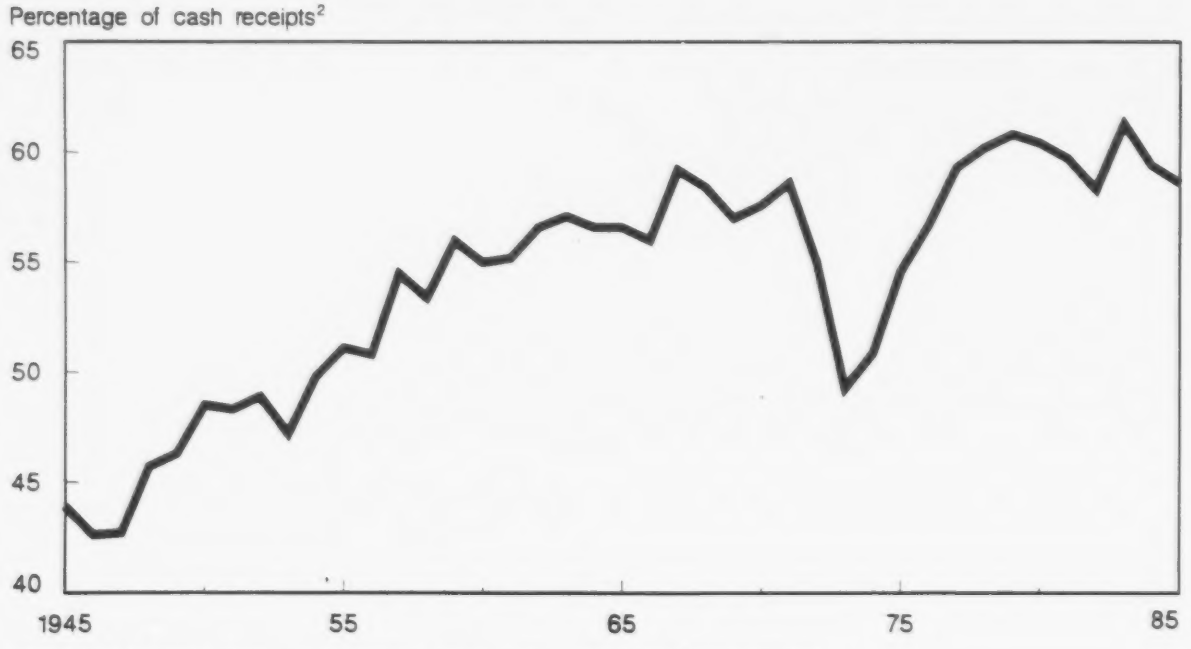
Distribution of Farms and Sales at 1980 Prices by Sales Class



1/ Not available. Included in the $100,000 - 199,999 sales class.

Figure 3

Purchased Inputs Used in Farming[1]



1/ Excludes farm household purchases. Includes intermediate products, services, and hired labor (including perquisites).
2/ Includes CCC loans and government payments.

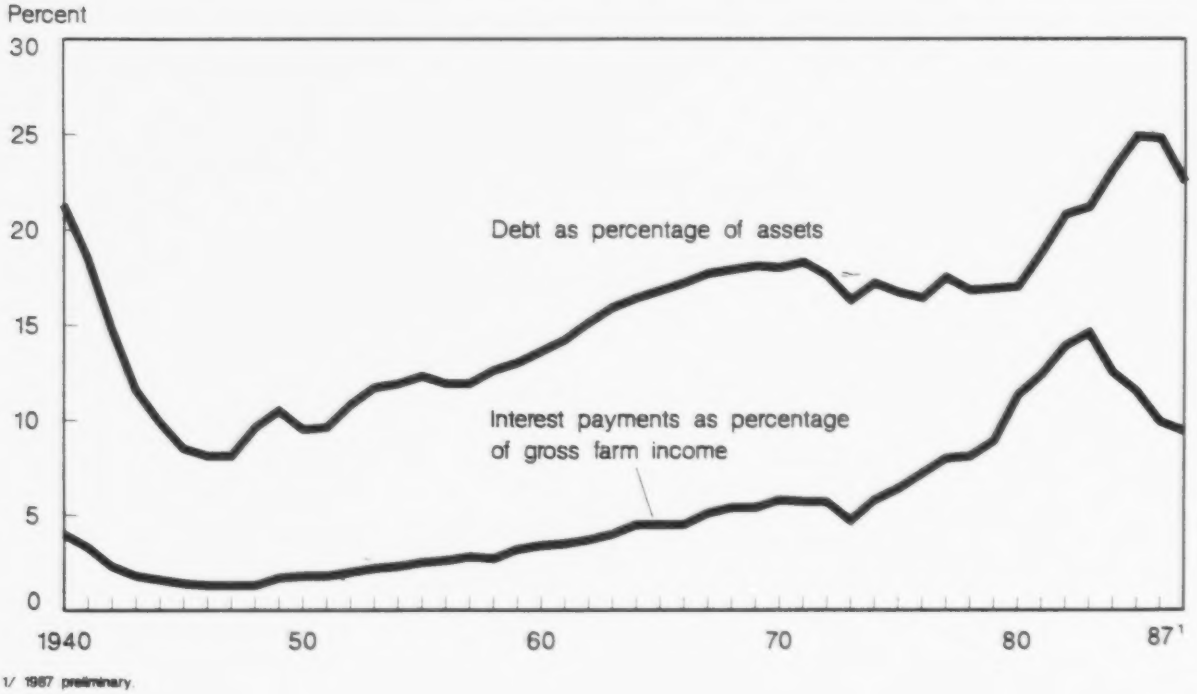
Trade and financial links mean that domestic and foreign macroeconomic policies and world supply and demand conditions affect U.S. agricultural exports, which, in turn, heavily affect the farm sector. Increased foreign consumption in the 1970's stimulated unprecedented growth in the world market for agricultural imports, particularly those produced in the United States. Strong foreign demand pushed export volume and commodity prices to all-time highs early in the decade. Annual growth rates in U.S. agricultural exports jumped from 4 percent in the 1950's and 1960's to more than 10 percent in the 1970's. Their value increased sixfold during the 1970's, while volume more than doubled (fig. 5). Boosted by strong exports in 1973, real (adjusted for inflation) net farm income (gross farm income minus total expenses) reached its highest level since World War II.

Factors expanding trade and bringing boom times to agriculture in the 1970's worked in reverse in the 1980's. Foreign production grew in response to the strong markets of the 1970's. Foreign per capita consumption rose at less than two-thirds the pace of the 1970's, due in large part to a worldwide recession induced by monetary policy adjustments designed to slow inflation. High real interest rates and the appreciating international value of the U.S. dollar caused a debt crisis in developing countries that stifled import demand. Many countries limited or reversed their growing dependence on imports. While world trade stagnated over the first half of the 1980's, U.S. farm exports fared even worse, dropping shipments by a third from the 1981 high.

Changes in the agricultural setting have had ripple effects beyond the farm. Lower prices and demand, for example, have led farmers to re-evaluate their financial needs. Many have postponed capital replacement to reduce debt. This trend, along with acreage

Figure 4

Importance of Borrowed Capital in Farming



1/ 1987 preliminary

reductions required by price and income support programs, has affected upstream industries. In addition, reduced world demand has affected downstream firms that service export markets.

FINANCIAL CONDITIONS IN THE SECTOR

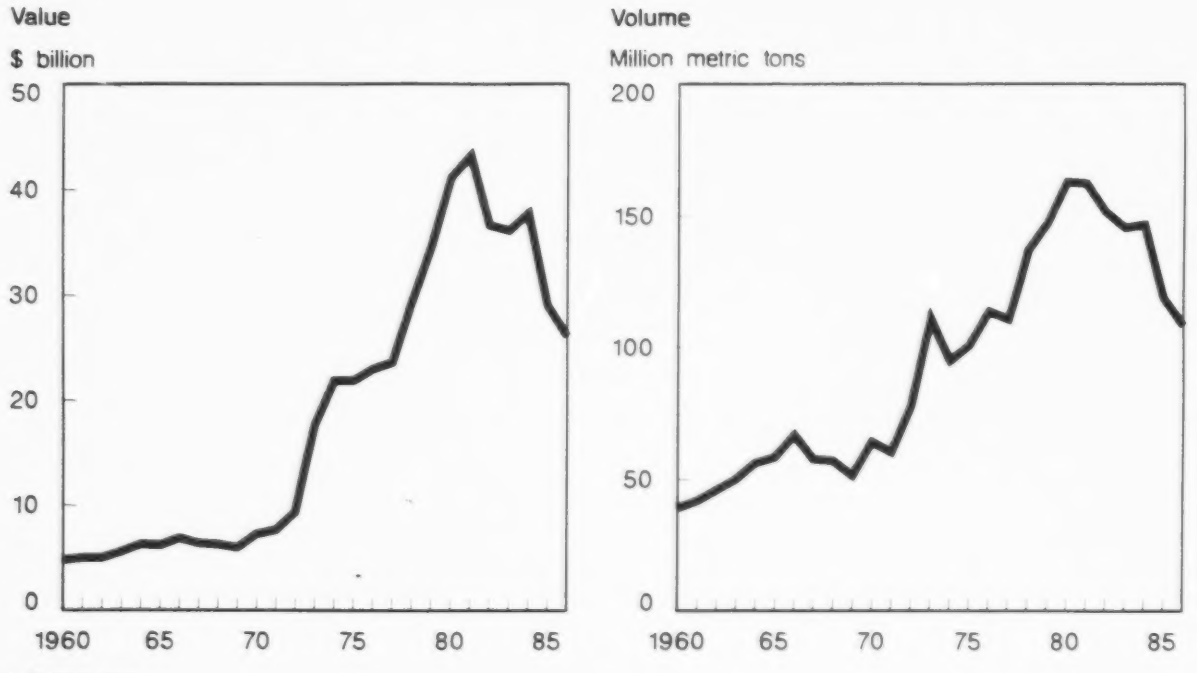
Cash receipts from marketings have fallen but are largely being offset by rising Government payments and falling production expenses. Lower inflation and energy prices, reduced planted acreage, and declining nominal interest rates in the last 2 years have lessened the pressure on production expenses. As a result, net cash farm income (cash income minus cash expenses) reached a record high of $44 billion in 1985. But, the more than $300-billion decline in farm asset value between 1981 and 1986 and higher borrowing costs have left roughly 4 percent of farms technically insolvent (debts exceed assets so that even liquidating the farm business will not meet commitments to lenders).

The roots of the current financial crisis can be traced back nearly a decade. In the late 1970's, an optimistic outlook for exports and a high inflation rate encouraged vigorous investment by farmers. Land prices were bid up rapidly as farmers sought to expand. Many farmers who financed land and machinery investments found they could rely on further borrowing against rapidly rising equity values to meet cash flow needs. With over half the returns on farm investment coming from capital gains, the strategy appeared to be sound.

However, farm asset values fell more than one-fourth between 1981 and 1986, led by depressed commodity prices, deflated expectations of farmland appreciation, and sudden

Figure 5

Value and Volume of Agricultural Exports[1]



1/ Calendar years.

increases in real interest rates prompted by monetary policy changes designed to reduce inflation. With land accounting for about 70 percent of farm assets, the decline in land values after 1981 left little cushion for debt-burdened farmers. Rising real interest rates increased the cost of borrowing to finance debt, financially squeezing many farmers.

The debt–to–asset ratio, which compares the amount of money invested by the farm operator with that owed to creditors, is one indicator of a farm's long-term financial strength. Debt soared in the 1970's, but with rapidly rising asset values, the ratio remained relatively stable. The picture changed after 1981, however, as plummeting asset values hiked the ratio (see fig. 4).

Over 21 percent of the 1.6 million farms included in USDA's Farm Costs and Returns Survey were highly leveraged in 1985 (debts exceeding 40 percent of assets). These heavily indebted farms owed two–thirds of all farm operator debt.

The effects of financial problems have varied by size, type, and location of farms. Almost 8 percent of farms with $100,000 or more in sales, for example, were technically insolvent on January 1, 1986, versus less than 2 percent with sales under $40,000. Dairy and cash grain farms had the highest percentage of operations with debt–to–asset ratios

GLOSSARY

Deficiency payment. Government payment made to farmers who participate in feed grain, wheat, rice, or cotton programs. The payment rate is per bushel, pound, or hundredweight, and is based on the difference between a target price and the higher of either the market price or the loan rate.

Loan rate. The price per unit (bushel, bale, or pound) at which the Commodity Credit Corporation (CCC) will provide loans to farmers to enable them to hold their crops for later sale.

Marketing loan. Authorizes producers to repay their nonrecourse loans at a lower market level.

Nonrecourse loans. Allows eligible producers to obtain a loan at the CCC–established loan rate by pledging crops in storage as collateral. These price support loans enable farmers to hold their crops for later sale. If the market price remains below the CCC loan rate, the producer can settle the loan by turning the stored commodity over to the Government. The Government has no recourse but to accept the commodity as complete settlement for the loan.

Paid land diversion. Gives producers a specific per–acre payment for each idle acre that would be paid in addition to any deficiency payment.

Target price. A unit value level established by law for wheat, feed grains, rice, and cotton representing a gross return level that supports income for the commodity at a politically acceptable level. If the market price falls below the target price, an amount equal to the difference (but not more than the difference between the target price and the loan rate) is paid to participating farmers as a deficiency payment.

exceeding 70 percent. The Northern Plains, Lake States, Corn Belt, and Delta States appear to have the largest proportion of highly leveraged farms.

In addition to declining land values and high interest rates, considerable variability in net farm income since the early 1970's has contributed to financial risk in the sector. Alternating years of drought and recordbreaking export demand sent net farm income soaring to a record $34.4 billion in 1973. By 1983, drought, large program-induced acreage cutbacks, record declines in inventories, high costs, and lower prices pushed net farm income to about $13 billion.

Nominal net farm income totaled $30.5 billion in 1985. Of that, $7.7 billion was in direct Federal payments. These payments plus another $11.8 billion in net CCC loans enabled more farmers to meet debt and other commitments out of current cash flow in 1985 than a year earlier. More than half of the 330,000 high-debt farms at the core of agriculture's financial crisis maintained a positive cash flow in 1985. Almost 75 percent of these positive cash-flow, high-debt farms (7.7 percent of all farms) received $5.5 billion in direct payments and CCC loans in 1985, an average of $45,000 per recipient.

The provision of Federal payments based on production volume has skewed the distribution of benefits. The 287,000 farms with annual sales of $100,000-499,999 received more than 50 percent of Government farm payments compared with about 10 percent to the more than 1.6 million farms with annual sales of less than $40,000. These small farms received average annual payments of only $447 in 1985 because they accounted for about only 10 percent of commercial agricultural production. Some undoubtedly depended solely on farming for a living, but the majority relied on nonfarm occupations to offset negative net farm income. Only farms with sales above $100,000 earned half or more of their income from farm sources.

PROFILE OF CURRENT LEGISLATION

The 1985 Food Security Act focuses on shifting agriculture more toward market orientation so that the farm sector can produce for domestic and international markets at prices reflecting global supply and demand. This follows the lessons learned from the 1981 farm act, which set high and rigid price supports without regard for market conditions. As a result, U.S. farmers had difficulty selling their products overseas when global markets changed. The 1985 Food Security Act does the following:

- Lowers loan rates (see Glossary) to make U.S. farm products more price competitive and to reduce or eliminate the price umbrella that the United States has been providing to foreign competitors. Loan rates are tied to an average of past market prices. Furthermore, larger discretionary reductions in loan rates are allowed than in the past if the formula-determined rate is likely to hamper market competitiveness.

- Changes minimum target prices (see Glossary). Previously adjusted annually, target prices are initially frozen at their 1985 levels. They will decline from 1988 to 1990.

- Includes provisions to ease the transition to more market-oriented policies. Authorities and mandates for export subsidies, for example, are part of the act. It also continues authority for supply controls in the form of acreage reduction programs and paid land diversions (see Glossary). Reductions in planted acreage are required when stocks are expected to exceed certain levels.

o Addresses the dual goals of supply control and conservation by creating a Conservation Reserve Program to gradually withdraw 40–45 million acres from production. The program removes erodible acreage from cropland use and encourages conversion of the land to grass or trees. Target prices and deficiency payments (see Glossary) often induced farmers to bring fragile lands into production to expand crop program bases, leading to greater erosion.

EMERGING ISSUES AND THE ROLE OF PUBLIC POLICY

The events of the 1970's and 1980's have demonstrated the volatility that can plague the farm sector. This volatility is likely to increase in the years ahead because greater economic links between countries mean that general economic contractions or expansions strongly affect an export–oriented U.S. agriculture.

The potential for continued volatility has significant implications for farm policy, pointing to the need for more flexible farm programs to deal with different markets in the United States and abroad. In designing these programs, policymakers face several critical challenges. Trade negotiations with other countries will continue to be important to the United States with its export–dependent agriculture. The trend to protectionism has disrupted world export markets by encouraging production, reducing imports, and leading to surplus dumping. Recognizing that domestic policies have international implications, political leaders are including the full range of agricultural subsidies as key items in multilateral trade negotiations. The challenge for U.S. policymakers is to design domestic farm price, production, and marketing policies that assure our competitive position in the world market without stimulating further subsidization.

Fundamental changes in the structure of agriculture over the last 20 years will have implications for farm policy, too. Millions of modest–sized family farms, one focus of farm assistance programs, have disappeared. Technological advances and other changes in the sector have helped create a dichotomy within U.S. agriculture: (1) the large, commercial operations, and (2) the small- to medium–sized farms, many operators of which have turned to off–farm employment to supplement their incomes. As farmers continue to leave the sector, policymakers face difficult choices between programs and policies that maintain the current structure of the industry, or ease the transition of exit caused by technology, changing markets, and macroeconomic links.

Current program instruments are intended basically to treat an income problem by enhancing commodity prices or providing direct payments. Price and income support benefits are based on production volume, thereby skewing the distribution of benefits to the larger volume producers. Furthermore, commodity program benefits accrue only to those farms growing supported commodities--about 25 percent of all farms in 1985.

Because Federal programs explicitly link production and income, policymakers face a dilemma: how to equitably achieve the dual goals of income support and a market–responsive farming sector. The present policy that ties benefits to production affects mostly a minority of larger farms. One alternative is to link benefits more closely to income needs. The likelihood of reduced benefits under such a program, however, would mean less participation by the larger, more efficient farms. Therefore, under the current program structure, linking benefits to income needs may not adjust production enough to hold down Federal budget outlays.

The 1985 Food Security Act has taken significant steps to reduce land in production. About 45 million acres were idled under Government programs in 1986, an amount similar

to the 1950's and 1960's. In 1987, more than 70 million acres will be idled. Implementation of the Conservation Reserve Program, current large surpluses, increasing farm productivity, and the slow growth expected for demand could mean that record or near-record levels of land will have to be idled for several years.

Yet, the United States probably cannot reach its full competitive potential if it relies on acreage reduction programs. In addition to wasting a productive resource, these programs make land artificially scarce, pushing its price above what it would be otherwise, thus raising production costs. Farmers also apply inputs more intensively on the land remaining in production, further contributing to higher production costs. Farmers spread overhead and other fixed costs over fewer acres, again raising unit costs of production.

The events of the last decade have defined the importance of links within agriculture and to domestic and international economies. Because of these links, farm policy can neither control events nor completely isolate farmers from them. Farm policy, for instance, has little influence on macroeconomic conditions, but macroeconomic conditions affect farm production decisions and farm policy.

Agriculture's links to domestic and international economies mean that shifts in farm policy can have repercussions beyond the farm sector. Raising farm prices, for example, may have minimal effects on domestic consumption but could mean reduced exports as foreign buyers strive for self-sufficiency or find other suppliers who are more price-accommodating. Cutting back acreage may help raise farm prices, but input suppliers are then forced to adjust to lower demand. Moreover, the United States ends up making the largest adjustments in world markets.

THE CONTINUING FARM POLICY DEBATE

Faced with a variety of farm problems and issues, policymakers continue to debate agricultural policy. One year after implementation of the Food Security Act, several other farm policy proposals have been offered. Some of these, such as decoupling, mandatory production controls, and targeting, represent significant departures from current programs.

o ***Decoupling.*** The decoupling notion is an effort to advance agriculture more rapidly to a market-oriented sector. It would separate program incentives and production decisions, encouraging farmers to respond to market signals and avoiding the distortions inherent in current programs.

o ***Mandatory production controls.*** Mandatory restrictions on agricultural production are often viewed as a way to reduce Government costs of farm programs and the accumulation of crop surpluses while simultaneously increasing farm income. A mandatory production control program would support farm income by limiting production, thereby raising commodity prices. At the same time, however, a mandatory control program would leave the United States less competitive in world markets and reduce sales and employment of industries dependent on agriculture.

o ***Targeting.*** Targeting would shift the focus of farm programs from per-unit payments based on type and amount of production to benefits tied to farm characteristics. Benefits would vary with the need of individual producers. The targeting option could be used to achieve several objectives: (1) separate payments from production; (2) eliminate payments to farmers who are not in need of income

transfers; (3) save on CCC outlays by focusing expenditures on those in need; and (4) address the needs of all farmers, not just the 25 percent currently receiving program benefits.

o ***Marketing loans.*** Marketing loans purportedly would boost U.S. farm exports and reduce Federal stocks of surplus commodities. The concept was introduced in the 1985 Food Security Act, which requires marketing loans for rice and cotton. The authority is discretionary for wheat, feed grains, and soybeans, although programs have not been implemented. Marketing loans allow prices to fall below loan rates, making U.S. commodities more competitive in world markets. Since implementation of marketing loans, U.S. rice and cotton prices have fallen and export sales have risen substantially as have program costs. Future policy debate may focus on whether the marketing loan program should be extended to wheat, feed grains, and soybeans.

PROSPECTS FOR A SUPPLY-DEMAND BALANCE

The farm sector faces three critical problems: surplus stocks, a large amount of nonperforming debt, and large program costs. Reduced demand for U.S. exports aggravates these problems.

The Food Security Act of 1985 includes steps to bring U.S. production more in line with demand, thereby reducing stocks. Considering the other side of the problem, however, what are the prospects for greater domestic and foreign demand for U.S. farm products?

Increased domestic demand would require real economic growth, declining nominal and real interest rates, lower unemployment, and moderate inflation and population growth. However, gains in domestic demand would be modest, with changes in consumption more likely between products.

World import demand could rise if economic growth abroad and the international financial situation improve. These macroeconomic developments, along with lower loan rates, a weakening dollar, and more modest growth in production by importing countries, could gradually lead to a stronger U.S. competitive position in an expanding world market, spurring exports.

Yet, gains in farm productivity could easily outpace growth in domestic demand and offset some of the export growth. The result would be a slower drawdown in stocks and persistence of large acreage reduction programs.

Under steady domestic demand and a slow recovery in exports, the farm sector is likely to face more years of large Government payments. Loan rates have been reduced and seem likely to follow world market prices in future years. Gradual reductions in target prices are written into current law. The continuing large gap between loan rates and target prices could mean large deficiency payments for some commodities. As a result, the Federal Government would continue to provide a substantial proportion of farm income.

Production expenses are critical to the outlook for income. Expenses, about 60 percent of gross income in the 1950's, rose to around 70 percent in the 1970's and to roughly 80 percent in the 1980's. Lower production expenses and continued income support through Government payments could reduce the share to around 70 percent again later in the decade.

Farm program payments have been helping to cushion the fall in farm asset values. Although further declines are possible, the rate of decline has slowed perceptibly. Further, reductions in farm debt may outpace declines in farm asset values, arresting the drop in owner equity, which has seriously undermined the position of many farmers and lenders during the past few years. These adjustment patterns, plus the adjustment in production expenses, are helping to restore competitive rates of return for farm assets while the farm sector becomes more responsive to domestic and foreign markets. Whether or not to continue these directions is the challenge for policymakers in the face of potential surpluses, high government costs, and lingering financial pressures.

FOR ADDITIONAL INFORMATION...

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Current debate on farm policy is based on conflicting reactions to the 1985 Food Security Act. A decision made on behalf of one group may have unanticipated or adverse effects on others. This bulletin and others listed below are part of a series published by USDA's Economic Research Service aimed at informing those debating farm policy about the highly interrelated nature of agricultural policymaking. For more information on upcoming bulletins, write to USDA-EMS Information, Room 237, 1301 New York Avenue, N.W., Washington, DC 20005-4788.

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- o *Economic Growth, Agricultural Trade, and Development Assistance* (AIB-509)
- o *New Approaches to Financing Long-Term Farm Debt* (AIB-511)
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